

Claims:

1. Membrane filter unit for liquid or gaseous media, with a bundle, or a plurality disposed in any desired manner, of capillary membranes (1) open on at least one face, which are cast into a sealing layer (3) that has hardened to form a solid head piece, in a region close to the end, with regard to the open membrane end (2), whereby the open membrane ends (2) protrude on the outside of the sealing layer (3), characterized in that the sealing layer (3) is disposed on a spacer (4) that has a layer that is penetrated by the capillary membranes (1) and is impermeable for the casting material that hardens to form the sealing layer (3).

2. Membrane filter unit according to claim 1, characterized in that the spacer (4) consists of a perforated plate whose openings (5) enclose the capillary membranes (1) essentially without a gap.

3. Membrane filter unit according to claim 1, characterized in that the spacer (4) consists of a flexible plastic strip (12) that has openings or lateral slots (13) for accommodation of the capillary membranes (1).

4. Membrane filter unit according to claim 3, characterized in that the plastic strip (12) is wound up in spiral shape, or that segments of the plastic strip can be combined to form a multi-layer package.

5. Membrane filter unit according to claim 1, characterized in that the spacer (4) has a functional layer of fine-particle solid and/or a soft substance and/or a film, which is punctured by the ends of the capillary membranes.

6. Membrane filter unit according to claim 5, characterized in that the functional layer is disposed in a carrier provided with openings.

7. Method for the production of the membrane filter unit according to one of claims 1 to 6,

whereby capillary membranes are inserted into a spacer with one protruding end, which spacer has a layer that is penetrated by the capillary membranes and is impermeable for casting material, and

whereby a sealing layer of viscous casting material is applied to the spacer, which material fills the free space between the capillary membranes that protrude at the top of

the spacer, up to a level below the membrane ends, and hardens to form a solid head piece.

8. Method according to claim 7, characterized in that a plate with openings is used, into which the capillary membranes are introduced.

9. Method according to claim 8, characterized in that each opening has a capillary membrane assigned to it, in each instance.

10. Method according to claim 7, characterized in that the spacer has a layer that is impermeable for the casting material, which is punctured during insertion of the capillary membranes.

11. Method according to claim 10, characterized in that the layer that is punctured during insertion of the capillary membranes consists of fine-particle solid, a soft substance, or a film.

12. Method according to claim 7, characterized in that the capillary membranes are inserted into openings or lateral slots of a plastic strip and that the plastic strip is wound up into a spiral or segments of the plastic strip are combined to form a package.

13. Method according to one of claims 7 to 12, characterized in that the ends of the capillary membranes that protrude above the spacer remain unclosed during application of the casting material.

14. Method according to one of claims 7 to 13, characterized in that the casting material is fed in at the top of the spacer, next to the capillary membranes.

15. Method according to one of claims 7 to 14, characterized in that the casting material is fed in through one or more openings of a component that accommodates the casting material.

16. Method according to one of claims 7 to 15, characterized in that the sealing layer is applied to the spacer in several layers, whereby the lower layer, in each instance, has hardened at least partially before the next layer is applied.